CHARLES COUNTY, MARYLAND
CLOSE TO THE CAPITAL. FAR FROM ORDINARY.

Charles County Maryland

Response to RFP: Amazon HQ2

Prepared by: Charles County Economic Development Department

October 18, 2017

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EXECUTIVE SUMMARY

In response to Amazon's Request for Proposal (Amazon HQ2), Charles County Maryland takes this opportunity to submit specific information that will allow Amazon to determine the ideal site location for its second Headquarters (HQ2).

The proposal outlines the attributes of our selected site and of Charles County, based upon a close review of and alignment with the building and site requirements within the HQ2 RFP. Also, the proposal outlines how the site is uniquely positioned to attract and retain talent, foster a sense of place, and promote Charles County's culture and creativity into the proposed Amazon HQ2.

The following sections directly discuss the Information Requested section of the HQ2 RFP. The information is presented in the sequence as requested in the RFP and contains the following sections: Potential Sites; Available Incentives; Potential Incentives; Incentives Timetable; Labor and Wages; Higher Education Programs/Partnerships; Transportation; Quality of Life; and Additional Considerations.

About Charles County

Charles County, a suburb of Washington, D.C., is part of the Washington, D.C. Metropolitan Statistical Area (MSA) and is located 30 minutes from Ronald Reagan National Airport and 40 minutes from the nation's Capital, the White House, and major federal government offices. While the County enjoys easy access to the metro area, the county's cost of doing business and cost of living are lower than the metro area as a whole; commercial land prices and lease rates are significantly less than other parts of the DC metro region. The northern part of the County closest to Washington D.C. has evolved as a vibrant, suburban center where over half the county's residents live. With a 2016 population of 157,705, Charles County continues as one of the fastest growing counties in Maryland. (Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates).

The **labor force within a 45 minute commute of the proposed site exceeds 1.3 million**, of which 147,080, or thirteen percent (13%) work in executive/administration occupations and 68,340 or six percent (6%) work in computer and mathematical occupations.

Charles County also sits in the center of the Baltimore/Washington/Richmond corridor. The County's northern urbanized areas are within 60 minutes driving time of Baltimore and Annapolis and have easy access to the Washington Capital Beltway (I-495), just 15 minutes north of the County line. The southern end of the County is bordered by the Potomac River with bridge access directly across to King George County, Virginia and 75 miles from Richmond, Virginia. Bordered on three sides by water, Charles County has approximately 300 miles of shoreline.

Given Charles County's strategic location in the Washington DC Metro area, the labor force within a 45 minute commute of the proposed site exceeds 1.3 million, of which 147,080, or thirteen percent (13%) work in executive/administration occupation and 68,340 or six percent (6%) work in computer and mathematical occupations.

Charles County has the geographic proximity to three major airports and international markets, incomparable quality of life and workforce talent, and geographically diverse recreation choices which are realistically capable of achieving Amazon's highest standards of sustainability and connectivity. Our strategic location in the DC Metro area, and lower cost of doing business, makes Charles County a prime location for investment.

I. POTENTIAL SITES

The potential site is a 435-acre undeveloped parcel, currently on the market. Approximately ¼ mile from highway 301, the site is in the center of the county's population centers including Waldorf, White Plains, and the Town of La Plata. Public water and sewer are available to the site; Washington Gas is planning to construct a new main along 301 from Waldorf to La Plata, running just past the site. And an active CSX rail line runs through a corner of the parcel. Charles County owns two adjacent sites; the closest is 104 acres and the next is 86 acres. Both are zoned for commercial and industrial uses (See attached site maps).

II. AVAILABLE INCENTIVES

Charles County benefits from significant incentive programs on the state and local levels. These programs provide Charles County businesses with significant reductions in income and property tax liabilities. Charles County Economic Development Department is dedicated to finding any incentive for which the Amazon expansion project may qualify. Charles County welcomes the opportunities to engage with Amazon in the creation of an incentive package, real estate opportunities, and cost structure to encourage the company's location of its headquarters (HQ2) in the County.

Existing Charles County Incentive Programs

- **Real Property Job Creation Tax Credit:** Companies that make substantial investment and bring significant employment growth, occupy at least 4,000 square feet of new premises, or invest at least $100,000 in renovations to an existing facility may be eligible to incentive of up to 10 years of tax credits. Credit will vary on economic impact.

- **Recordation Tax Credit:** Companies that make a significant investment and maintain at least ten (10) or more new permanent full-time positions, with above average earnings will be eligible for full or partial waiver of recordation tax.

- **Tax Increment Financing:** The goal of the tax increment financing is to pay for infrastructure for new or expanding development in designated areas. Charles County may issue bonds to fulfil this goal. The debt is repaid by the additional taxes increment generated by the new project.

- **Property Assessed Clean Energy (PACE):** The PACE model is an innovative mechanism for companies to use private capital to finance 100% of efficiency and renewable energy upgrades which are then repaid as a long-term surcharge on the property. Debt is serviced through an assessment on property tax bills and remains with the property.

- **Permit Expedite:** The County approves permit expediting to help speed up the development approval process for qualifying companies' projects.

- **Local Tax Stabilization Program:** Companies may be eligible for phased-in real property taxes over a period of years based on economic impact generated by investment and jobs creation with above average earnings.

[redacted]

Information about incentives has been redacted as directed by the State of Maryland Department of Commerce.

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[redacted]

[redacted]

III. LABOR, WAGES AND RECRUITMENT

Ability to Attract Talent Regionally

Maryland benefits from having two large metropolitan areas – Baltimore and Washington DC – adjacent to each other. This combined metro area is one of the largest by population in the country. As a result, the region has considerable assets in a relatively small area.

- Three major airports each handling more than 20 million passengers annually,
- A well-educated workforce. Maryland ranks first among states in the percentage of professional and technical workers, and third for the percent of the population with a bachelor's degree or higher,
- One of the most highly regarded private universities in the country – Johns Hopkins University – as well as one of the top-ranked public university systems – the University System of Maryland,
- Geographically diverse recreation choices, from Atlantic Ocean beaches, sailing and boating on the Chesapeake Bay, to mountain sports such as skiing and whitewater rafting in Western Maryland, and
- Numerous historic and cultural attractions, museums and performing arts.

Charles County is located within the Washington, D.C. MSA with a lower cost of doing business and an educated workforce exceeding 1.3 million with a 45 minute commute. According to the Bureau of Labor Statistics, the MSA contains 223,490 employees in the "Computer and Mathematical Occupations" sector earning an annual mean wage of $104,280. The subsectors "Software Developers, Applications" and "Software Developers, Systems Software" contain a total of 58,810 employees with annual mean wages of $114,130 and $120,930, respectively.

Charles County has access to the most educated labor force in America. Within a 45 minute commute of the proposed site, there are close to 6,000 individuals holding a bachelor's degree or above in computer and information science.

Through a partnership with the Southern Maryland Job Source, Charles County is able to attract, recruit, and retain a highly educated workforce. The State's workforce program is part of Maryland Jobs Now, a network of high-performing, results-oriented workforce organizations investing in employment and training strategies, services, and initiatives, affording residents good-paying jobs in a thriving economy.

Specific Opportunities to Hire Software Development Engineers and Recurring Sourcing Opportunities

> "Charles County is uniquely positioned for Amazon HQ2 - **adjacent to the most important city and metropolitan area in the world,** with a highly educated work force, necessary infrastructure, housing choice, open space/environmental amenities and forward thinking community."
>
> David M. Jenkins, AICP,
> CEO
> Southern Maryland Association of REALTORS®

College & University Pipeline: Maryland's colleges and universities annually produce over 3,000 graduates with engineering degrees (bachelor's and above) and over 5,000 graduates in computer and information systems (bachelor's and above).

Federal Workforce: In addition, federal agencies like NASA, NOAA and NSA provide practical experience in the most demanding of environments. This federal workforce typically

looks for mid-career opportunities in the private sector after completing their federal service.

Military Workforce: Member of the U.S. military with software development skills regularly transition from military service at installations such as Fort Meade, creating excellent opportunities for employers in Central Maryland to gain the benefits of their skills and work ethos. Job fairs in the federal and military space are routine in the region, offering employers from all sectors to seek talent.

Charles County is home to the Department of Defense (DoD) Naval installation, Naval Support Facility Indian Head. The base houses tenant commands involved in a diverse and strategically important mix of research and development and manufacturing activities as well as operations support programs serving the U.S. Navy, Marine Corps, Air Force, and Army forces deployed worldwide.

In addition to its military value, the Indian Head Navy installation makes a significant economic contribution to the local community by serving as one of the County's largest employers. Established in 1890 as the Naval Proving Ground, today the installation is DoD's research and development center for energetics technology, as well as ordnance detection and disposal, micro-electronic-mechanical systems, and nanotechnology. The base is a multi-military facility housing the Naval Surface Warfare Center Indian Head Explosive Ordnance Disposal Technology Division as its largest tenant. The base also hosts the Chemical & Biological Incident Response Force (Marines), other military support activities, and numerous defense subcontractors and support units. Active employment at the base is approximately 3,500 military, civilian, and support personnel. For fiscal year 2016, the naval base generated over $320 million funneled directly into the local economy in the form of civilian and military payroll dollars and an additional $393 million in total contracts.

Game Development Industry: Maryland has an established industry concentration of computer and video game producers. The industry has implications for other key Maryland industries, including defense-oriented simulation, defense-related research and testing, internet commerce and film/television production. This talent pool would be a resource for Amazon.

Robotics in Charles County and Southern Maryland

The missions of the military installations in the region include significant workforce – military, civilian, and contractor – devoted to R&D, testing, and integration of robotic/autonomous systems. The Naval Surface Warfare Center, Indian Head Explosive Ordnance Disposal Technology Division (NSWC IHEODTD) is the Department of Defense (DoD) Energetics Center and serves as the DoD Explosive Ordnance Disposal Technology Program lead. According to information from that command, "Department of Defense EOD technicians deployed worldwide are tasked with neutralizing unexploded ordnance of any kind, whether it be conventional, unconventional, improvised, chemical, biological or nuclear. … To meet their needs, our department employs mechanical and electrical engineers, information technology specialists, intelligence analysts, physicists, chemists, and subject matter experts from a variety of unique disciplines. We use multi-disciplinary teams to conduct research and develop tools in a broad range of fields from information technologies and energetic materials to robotics and laser technologies, all in support of the EOD operator."[1] Indian Head engineers focus primarily on robotic systems operating on land and underwater.

[1] http://www.navsea.navy.mil/Home/Warfare-Centers/NSWC-Indian-Head-EOD-Technology/What-We-Do/Technical-Departments/EOD-Dept-Related-Org-Elements/

A training and research facility in development outside the base in the Town of Indian Head will include a focus on robotics.

In adjacent St. Mary's County, the Patuxent River Naval Air Test Station serves as a site for major research, development, test, and evaluation for aircraft, components, and associated systems, including support of Unmanned Aerial Vehicle operations. The University of Maryland operates an Unmanned Aircraft Systems test site a few miles from the base at the St. Mary's County Airport and serves as a catalyst for research and development of UAVs.

The College of Southern Maryland (CSM) Talons Robotics team has have been consistent players and winners in national academic competition. "In the fall of 2012 and 2013, the team traveled to Purdue University and received the Tournament Champion and Excellence Award at the Purdue Robotics Challenge, besting other two-year colleges, four-year colleges and universities. In April of 2015, the college team traveled to the VEX World Robotics Championship and made it to the playoff rounds in the collegiate (VEX U) division. They also earned the Community Award in recognition of their involvement and support of CSM's robotics outreach programs. In 2016, the team travelled to West Virginia, winning both Tournament Champion and the Excellence Award at the West Virginia State Tournament against 16 two- and four-year colleges and universities, winning a spot at the VEX World Robotics Championship. The Talons competed April 2016 at the VEX World Robotics Championship, ranking fourth in their division and winning the Innovate award for their pixie cam design."[2]

OCUPATIONAL WAGE ESTIMATES

OCCUPATIONAL WAGE ESTIMATES (in dollars)			
	CHARLES COUNTY MARYLAND		WASHINGTON DC METRO
OCCUPATION	**ENTRY LEVEL**	**MEAN**	**MSA MEAN**
All Computer and Mathematical	56,944	93,424	104,280
Software developers, applications	69,432	104,322	114,130
Software developers, systems software	63,854	100,024	120,930
Chief executive	121,555	234,857	222, 260
General/Operations Manager	59,663	121,925	148,920
Legal Occupations (all)	35,284	72,986	141,480
Attorneys	59,748	91,784	172,580
Paralegals and legal assistants	26,229	39,187	67,980
Accountants and auditors	48,859	78,663	91,140
Office and administrative support occupations	22,488	37,568	43,960
Source: Bureau of Labor Statistics Occupational Wage Estimates, 2016			

Levels of Talent Available, Including Executive Talent

- Maryland ranks first among states in the percentage of professional and technical workers (28.3%) in the workforce. *(Bureau of Labor Statistics, Geographic Profile of Employment and Unemployment, 2014),*

[2] http://stem.csmd.edu/robotics.html

- Maryland ranks third among states in the percentage of the population age 25 and above with a bachelor's degree or higher (39.3%) and second in the percentage with a graduate or professional degree (18.5%) *(Census Bureau, American Community Survey, 2016)*,
- Maryland ranks fifth among states in the concentration of tech jobs in the private sector workforce (8.6%) and sixth in the tech concentration in the total workforce (7.0%) *(CompTIA Cyberstates, 2017)*,
- Maryland is first among the states in WalletHub's State Innovation Index based on 18 indicators including share of STEM professionals, R&D spending per capita, tech company density, and other human capital and innovation environment factors *(WalletHub, Most & Least Innovative States, March 23, 2017)*,
- In the 2015 Enterprising States study, which looks at how states are creating an environment in which the private sector can thrive, Maryland ranks second in the high-tech "Talent Pipeline," third in "Innovation and Entrepreneurship," and fifth in "High Tech Performance" *(U.S. Chamber of Commerce, Enterprising States 2015: States Innovate)*,
- Maryland ranks highly in the technology intensity of its business base. The state ranks fourth in science, engineering and technology (SET) establishments as a share of all business establishments (11.9%), third in employment in SET establishments as a share of all employment (16.1%), and ninth in SET business formations as a percent of all business establishments *(National Science Foundation, Science and Engineering Indicators 2016, using data from 2012)*, and
- Maryland ranks third in the Milken Institute's biennial State Technology and Science Index for 2016. Maryland received top ten rankings in all of the index components, including first in the component categories of technology and science workforce; technology concentration; and dynamism *(The Milken Institute, State Technology and Science Index: Sustaining America's Innovation Economy, October 2016)*.

IV. HIGHER EDUCATION PROGRAMS & PARTNERSHIPS

Universities

University System of Maryland (USM)

The University System of Maryland (USM) is the workforce engine of the State of Maryland, offering a full array of degree programs. There are over 170,000 students enrolled at 12 degree-granting institutions, regional higher education centers, and online. Over 40,000 degrees and certificates are awarded at the undergraduate and graduate level each year. Nearly 80% of USM undergraduates remain in Maryland after receiving their degree to pursue their careers.

USM leverages its outstanding academic programs; leading-edge research; and a wealth of business resources and services to develop the talent and ideas that help drive Maryland's economy. An innovative curricula—including those in business, management, cybersecurity, the life sciences, information technology, and the health sciences—prepare students for the workplace and attract world-class faculty and researchers. USM institutions routinely partner with federal agencies, industry and in global research initiatives to enhance innovation, knowledge and develop best practices. USM helps organizations of all sizes—from startups to established corporations—improve their products and performance.

The tables below present the most recent enrollment figures as well as the total degrees granted, which grew by 3% from FY 2015 to FY 2017.

USM Enrollment (Fall 2017)			
Institution	Undergrate	Graduate	Total
Bowie	4,711	958	5,669
Coppin	2,507	432	2,939
Frostburg	4,884	792	5,676
Salisbury	7,861	887	8,748
Towson	19,198	3,145	22,343
University of Baltimore	3,222	2,761	5,983
University of Maryland, Baltimore	905	5,577	6,482
University of Maryland, Baltimore county	11,142	2,498	13,640
University of Maryland, College Park	28,472	10,611	39,083
University of Maryland Eastern Shore	3,277	627	3,904
University of Maryland, University College	44,219	13,310	57,529
USM Total	130,398	41,598	171,996

USM Degree Production (FY 2015 - FY 2017)			
Institution	Bachelor	Graduate	Total
Bowie	2,346	981	3,327
Coppin	1,301	232	1,533
Frostburg	3,056	742	3,798
Salisbury	5,943	851	6,794
Towson	13,478	3,082	16,560
University of Baltimore	2,170	2,378	4,548
University of Maryland, Baltimore	1,148	5,073	6,221
University of Maryland, Baltimore county	7,524	2,261	9,785
University of Maryland, College Park	21,711	10,140	31,851
University of Maryland Eastern Shore	1,665	497	2,162
University of Maryland, University College	16,761	11,268	28,029
USM Total	77,103	37,505	114,608

STEM – Developing the talent driving our economic future

Increasing STEM degrees at the baccalaureate level has been a key priority. Since FY 2015, the number of degrees awarded has increased 9%, contributing to a 91.5% increase in STEM degrees awarded since 2009. USM is on pace to generate nearly-7,000 new STEM graduates each year.

USM Bechelor Degrees Awarded in STEM (FY 2015 - FY 2017)				
Institution	FY 2015	FY 2016	FY 2017	3-Year Percentage Increase
Bowie	96	101	93	-3%
Coppin	22	25	31	41%
Frostburg	136	132	155	14%
Salisbury	291	282	269	-8%
Towson	530	556	610	15%
University of Baltimore	86	74	75	13%
University of Maryland, Baltimore	-	-	-	0%
University of Maryland, Baltimore county	1,103	1,223	1,234	12%
University of Maryland, College Park	2,235	2,326	2,399	7%
University of Maryland Eastern Shore	122	143	103	-16%
University of Maryland, University College	1,550	1,579	1,774	14%
USM Total	6,171	6,441	6,743	9%

Growing a Diverse and Dynamic Workforce, in Maryland and beyond

The University System of Maryland develops Maryland's workforce, offering world-class programming at its institutions, regional education centers, and online with more than 170,000 enrolled – reaching more than 84,000 students in over 20 countries and territories around the world. Its comprehensive online institution, the University of Maryland University College (UMUC), is one of the largest providers of educational services and programming to the U.S. military for the past 70-years, with more than 55,000 veteran alumni.

The following tables highlight key workforce areas of strategic interest to Amazon. At the undergraduate level, the degrees produced in STEM, Cyber Security, Health Professions, Accounting, Business & Management (All Areas), Computer Science (All Areas), Engineering (All Areas), and the specific programs of Computer Programming and Electrical Engineering are displayed. At the graduate level, the graduate degrees of all Business & Management programs (including MBA or Executive MBA), Law, Public Administration, and Medical or Health Professions (e.g., Doctors, Surgeons, Dentists, and Nurses) are displayed in the second table.

USM Bachelor Degree Production in Key Workforce Areas (FY 2015 - FY 2017)								
Institution	STEM	Health Profession	Cyber-Security	Accounting	All Business & Management General	Computer Program or Electrical Engineering	All Computer Sicence (General)	All Engineering (General)
Bowie	290	248	144	-	366	-	128	-
Coppin	78	298	31	26	114	-	24	-
Frostburg	423	397	172	82	389	-	152	80
Salisbury	842	421	359	203	955	-	262	-
Towson	1,696	1,777	816	458	1,933	-	678	-
University of Baltimore	235	-	208	-	956	-	208	-
University of Maryland, Baltimore	-	1,148	-	-	-	-	-	-
University of Maryland, Baltimore county	3,560	344	1,425	-	30	-	1,209	601
University of Maryland, College Park	6,960	482	2,018	910	3,008	385	1,244	2,918
University of Maryland Eastern Shore	368	117	57	46	326	-	42	102
University of Maryland, University College	4,903	427	4,998	863	6211	0	4798	50
USM Total	19,355	5,659	10,228	2,588	14,288	385	8,745	3,751

USM Graduate Degree Production in Key Workforce Areas (FY 2015 - FY 2017)				
Institution	Business Management (General)	Law (General)	Public Administration	Medical & Health Professionals
Bowie	44	-	92	118
Coppin	38	-	-	40
Frostburg	234	-	-	12
Salisbury	97	-	-	19
Towson	169	-	-	679
University of Baltimore	664	927	244	-
University of Maryland, Baltimore	-	740	-	2,741
University of Maryland, Baltimore county	136	-	-	30
University of Maryland, College Park	2,563	-	86	361
University of Maryland Eastern Shore	-	-	-	283
University of Maryland, University College	7,308	-	-	-
USM Total	11,253	1,667	422	4,283

Serving the Entire State of Maryland

A new USM facility at the Southern Maryland Higher Education Center is dedicated to **advancing autonomous systems and robotics technology.**

Inclusive of the enrollment and degree production highlighted, there are three USM Regional Centers where region-specific education and training needs are met in partnership with local employers and community colleges – one of which is in Southern Maryland. The new USM facility at the Southern Maryland Higher Education Center is located in St. Mary's County near Patuxent Naval Air Base, adjacent to private airport and UMCP Autonomous. This center enrolled 383 – and is dedicated to advancing autonomous systems and robotics technology. All institutions in the University System of Maryland are participants of the test center facility. The center offers upper-division bachelor completion and graduate program in the areas of engineering, business, social science, health professions, and education.

American University (AU)

AU is the headquarters of the NASA Space Grant Consortium and offers a Bachelor of Science in Computer Science. Areas of specialization include consulting, digital electronics, entrepreneurship, and self-created. The four year, private school has about 7,700 undergraduate and 5,400 graduate students.

Georgetown University (Georgetown)

Georgetown offers a Bachelor of Science (B.S.) in Computer Science, a Bachelor of Arts (B.A.) in Computer Science and a Doctor of Philosophy in Computer Science. Areas of Concentration include parallel and distributed algorithms, networking and distributed systems, machine learning and data mining, computer and network

security, information search and retrieval. The 4-year, private, not-for-profit school has an estimated 7,600 undergraduate and 10,000 graduate students.

George Washington University (GWU)

GWU offers a Bachelor of Science in Computer Science, Bachelor of Arts in Computer Science, and a Master of Science in Computer Science. Specializations include B.S. and B.A. in computer security and information assurance, computer graphics and digital media, theory and foundations, computer systems, and research. Areas of concentration include algorithms and theory, computer architecture, networks parallel and distributed computing, database and information retrieval systems, software engineering and systems, multimedia, animation, graphics and user interfaces, computer security and information assurance, machine intelligence and cognition. The 4-year, private not-for-profit university has roughly 10,700 undergraduate and 14,900 graduate students.

George Mason University (GMU)

GMU offers two Bachelor of Science programs with a total enrollment of over 1100 students: the B.S. in Computer Science and the inter-disciplinary B.S. in Applied Computer Science; four M.S. programs in Computer Science, Information Systems, Information Security and Assurance, and Software Engineering with a total enrollment of 400 students and a Ph.D. program in Computer Science with over 100 students. The department's world class faculty also teach and participate in the inter-disciplinary M.S. in Data Analytics Engineering and the Ph.D. in Information Technology.

Howard University

Howard University is a private, historically black research university with 13 schools and colleges and more than 120 degree concentrations. The university is nationally and internationally recognized for its STEM fields, College of Medicine, and areas of social work, business, and cinematographers.

University of Mary Washington's

University of Mary Washington's computer program ranks in the top 30% in the United States. Major competitors for this school are Carnegie Mellon University in Pittsburgh and University of Maryland University College in Adelphi.

University of the District of Columbia (UDC)

UDC offers a Master of Science in Computer Science. The 4-year, public institution has about 4,500 undergraduate and 300 graduate students.

Consortium of Universities of the Washington Metropolitan Area

A nonprofit educational association of 17 member colleges and universities representing nearly 290,000 students committed to the advancement of STEM education in the Washington Metropolitan Area.

Community Colleges & Professional Development

College of Southern Maryland (CSM)

CSM's Associate of Science in Computer Engineering (CE) is a solid theoretical and mathematical foundation which prepares graduates for emerging computer science industries such as artificial intelligence, robotics, cybersecurity, and graphics & gaming, as well as computer systems, networks, databases, and financial & scientific applications. The CSM robotics team consistently ranks in both National and International competitions beating out teams from Virginia Tech, Rutgers University and Old Dominion University.

College of Southern Maryland
Program Enrollment by Year

Associate Programs	Academic Year				
	2013	2014	2015	2016	2017
Mathematics and Physical Sciences	119	108	138	142	169
Computer Information Systems	85	85	82	100	90
Engineering Technology	44	51	45	40	61
Engineering Technology: Drafting	54	38	34	36	24
Engineering Technology: Electronics	44	39	29	31	12
Engineering Technology: Manufacturing	7	7	9	8	10
Engineering	391	389	383	416	340
Electrical Engineering	67	65	67	82	90
Computer Engineering	63	73	74	77	75
Cybersecurity			14	132	216
Information Systems Security	141	189	208	86	15
Information Services Technology	188	166	124	108	86
Information Services Technology: Web Developer	52	43	32	28	28
Total Associate Programs	*1,255*	*1,253*	*1,239*	*1,286*	*1,216*
Certificate Programs					
Drafting	13	13	11	13	6
Engineering Technology	7	5	7	5	8
Information Services Technology	25	26	15	24	14
Technical Support	10	12	22	6	16
Web Developer	11	5	5	3	1
Cybersecurity Technology				8	19
Total Certificate Programs	*66*	*61*	*60*	*59*	*64*
Grand Total	**1,321**	**1,314**	**1,299**	**1,345**	**1,280**

College of Southern Maryland
Planning, Institutional Effectiveness, and Research
Program Enrollment by Year
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College of Southern Maryland
Program Graduates by Year

Associate Programs	Academic Year				
	2013	2014	2015	2016	2017
Mathematics and Physical Sciences	3	8	7	6	4
Computer Information Systems	3	4	2	0	5
Engineering Technology	6	3	1	4	3
Engineering Technology: Drafting	4	7	6	2	4
Engineering Technology: Electronics	4	4	3	3	3
Engineering Technology: Manufacturing	1	0	0	0	2
Engineering	36	39	30	35	52
Electrical Engineering	4	10	3	5	13
Computer Engineering	1	4	1	3	2
Cybersecurity			0	12	21
Information Systems Security	7	9	14	20	6
Information Services Technology	23	29	25	17	15
Information Services Technology: Web Developer	2	1	4	4	3
Total Associate Programs	*94*	*118*	*96*	*111*	*133*
Certificate Programs					
Drafting	10	14	11	7	5
Engineering Technology	6	3	1	2	2
Information Services Technology	13	17	9	9	11
Technical Support	6	2	1	6	6
Web Developer	2	2	5	3	10
Cybersecurity Technology				11	21
Total Certificate Programs	*37*	*38*	*27*	*38*	*55*
Grand Total	**131**	**156**	**123**	**149**	**188**

College of Southern Maryland
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Program Enrollment by Year
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College of Southern Maryland Corporate Center (CSM)

CSM's Corporate Center provides customized workforce training options for businesses. New courses, trainings, certifications, and programs are continually developed and offered to meet the needs of local employers. Areas of specialization include Technology and Information Assurance, including Information Systems and Cyber Security; Management and Supervisory Training; Human Resources, such as Diversity, Team Building, and SHRM Certification; Project Management; and Business Services.

Southern Maryland Higher Education Center (SMHEC)

Focuses on providing highly developed and comprehensive academic and professional development educational opportunities at the graduate and upper undergraduate level to a workforce of knowledge workers engaged in technology, teaching, management, and other professional services. SMHEC also facilitates the advancement and growth of the Naval Air Station at Patuxent River through partnerships with nationally ranked universities like Johns Hopkins University Engineering for Professionals.

Local K-12 Computer Science Education Programs

Charles County Public Schools (CCPS)

One of the fastest growing school systems in the region. CCPS launched a multi-year partnership with Code.org in 2014 that infuses computer science concepts into curriculum for students in grades K-12. CCPS is one of only two Maryland counties to partner with Code.org. and the only school system to offer computer science/coding at all schools. At the start of 2015, more than 280 Charles County Public School teachers had been trained in computer science. Enrollment in computer science classes more than doubled with nearly 1,490 high school students learning programming and coding.

2017 boasted a number of accolades for CCPS including the Mathematics, Engineering and Science Achievement (MESA) teams being crowned the overall state winner in an annual STEM competition. CCPS students also had the opportunity to compete in the VEX Robotics World Championship.

Charles County Public Schools has a strong STEM focus, including computer science education for all students, K-12. Our diverse student population boasts an on time graduation rate of over 92%, with virtually no achievement gap for students of color.

Charles County is a great fit for Amazon HQ2.

Kimberly A. Hill, Ed.D.
Superintendent
Charles County Public Schools

Community Partnerships

Charles County Public Library (CCPL) has made a concerted effort to increase the quantity and quality of computational thinking and computer science programs offered to school-aged children, young adults, Millennial, and Gen X'ers. The four branch library system offers a wide-range of free classes that implement the latest technology for inspiring future computer scientists.

The library has become a recognized provider of STEM education for most recently forming a partnership with the Charles County Public School System. Through community partnerships and grants, the library has integrated cutting edge computer science products: AWE Educational Gaming Consoles, Minecraft EDU programs, Mobile Laptop Lab, SPLICE Laptops with 30+ educational software programs, Dash Robots, Code-a-pillar, Raspberry Pis, and Google Expedition Virtual Reality Devices and Viewers.

V. TRANSPORTATION INFRASTRUCTURE

Charles County is served by U.S. Route 301, a major north/south highway connecting Delaware to Florida, and parallels Interstate 95 for much of its routing through Virginia and the Carolinas. Access to the District of Columbia and Interstate 95/495 is provided by MD 5 (Branch Avenue) which intersects US 301 just north of the Charles County line in Prince George's County.

In 2010, the Maryland Transit Administration (MTA) defined a high-capacity, fixed-route transit alignment corridor between Waldorf and Washington, D.C. The MTA is working to further advance a rapid transit system of the MD 5 /US 301 (Crain Highway) corridor between Branch Avenue Metro Station in Prince George's County and the White Plains area in Charles County. The Southern Maryland Rapid Transit (SMRT) Alternatives Final Report was delivered in May 2017 and recommends the selection of bus rapid transit (BRT) as the preferred technology.

The Maryland Department of Transportation has analyzed the potential transportation impacts of 50,000 new jobs at the proposed site. This analysis has identified several roadway and transit projects that would improve the transportation capacity necessary to accommodate Amazon's workforce. A list of these projects is shown in the chart below. Cost estimates for some of these projects have not been made and will require further study. Should the Charles County site be selected, the State of Maryland will work with the County and Amazon to develop and prioritize transportation solutions.

State Transportation Projects - Rosewick Road Charles County site
Planned Improvements
MD5 - Brandywine to I-495 - TSM&O improvements
MD5 at Surrats Road interchange construction
I-495/Capital Beltway Traffic Relief Plan improvements
Additional Roadway Improvement Needs
US301 - South of LaPlata to T.B. - Add one lane per direction
Billingsley Road/Middletown Road/MD228 - US301 to MD210 - Add one lane per direction
Local Access Improvements - Low
Transit Improvements
VanGo
SMRT/County BRT project

An additional benefit to the project is Governor Larry Hogan's recently announced plan to add new lanes to I-495, I-270 and the Baltimore-Washington Parkway (MD 295). This $9 billion Traffic Relief Plan will deliver new express toll lanes, in addition to existing lanes, on these three roads. Maryland is soliciting the private sector to enter into a public-private partnership to design, build, finance, operate, and maintain the new lanes. The value of future toll revenue is expected to fully cover project development costs.

Finally, there are ancillary benefits to the project that would be made available from other State agencies. As examples, the Maryland Department of Housing and Community Development offers a homebuyers' assistance program that Amazon employees could take advantage of, and the Maryland Energy Administration offers energy efficiency grants and loans that Amazon could use to offset operational costs.

Charles County is well served by three major airports located within 50 miles of La Plata, the County seat. These airports provide all levels of short, long, and international flight services. In addition, there is one private, general aviation airport, Maryland Airport, located in the County. Ronald Reagan Washington National Airport is located south of Washington, D.C. in Arlington, VA. It is the nearest commercial airport to White Plains, approximately 30 miles away. Reagan National is a hub for American Airlines, its largest carrier. American Airlines has near-hourly air shuttle flights to New York LaGuardia Airport and Logan International Airport in Boston. Delta Air Lines also operates near-hourly air shuttle flights to LaGuardia, which are all operated by Delta Shuttle. Alaska Airlines operates twice-daily non-stop flights to Seattle. United and Virgin offer non-stop flights to San Francisco. Both BWI International and Dulles International are within an hour drive of the County.

VI. QUALITY OF LIFE

Charles County enjoys all of the cultural, entertainment, and economic advantage of a large urban region. At the same time, it is one of the state's most scenic areas, with hundreds of miles of shoreline, seventeen marinas, parks, history and an agricultural and maritime heritage. There are several sites that are owned and operated by the County and various federal, state, and non-profit agencies including Thomas Stone National Historic Site, Samuel Mudd House, Mount Aventine, Port Tobacco Courthouse, and colonial homes in the Port Tobacco Historic District. In addition, the federal government's National Oceanic and Atmospheric Administration has proposed a national marine sanctuary at Mallows Bay-Potomac River, a maritime heritage resource area along the Potomac River in Charles County. Waldorf, the county's largest community, north of the proposed site, was recently ranked as the 18th most livable city in the USA by the financial website www.247WallSt.com as reported in *USA Today*.

The County's hospitality sector is positioned to accommodate a broad range of visitors. For leisure and business travelers, the Waldorf/White Plains area offers nine national flag hotels comprising 645 guest rooms in properties ranging in quality from upper midscale to upscale. The county also features almost 250 restaurants.

Charles County offers a diverse array of housing for its residents including single family homes (41,000), townhouses (11,300), and apartments (4,300), most concentrated in the Waldorf/White Plains area. Within the past decade, the County has permitted an annual average of approximately 900 new residential units. The median home value is $287,900, the median monthly rent is $1,340.

Lennar, one of the country's top homebuilders, has just made a significant investment in Charles County by acquiring the undeveloped portion of St. Charles, one of the largest planned urban developments (PUD) in the Country. St Charles abuts the proposed site to the east; over 4,000 acres are yet to be developed. Lennar plans to continue the completion of St. Charles with a mix of neighborhoods featuring single and multi-family homes, shopping, and schools built around such amenities as community centers, walking paths, and bike trails.

Greenberg Gibbons announced in fall 2016 that it has acquired Waldorf Station, a proposed 145-acre mixed-use project in Waldorf, Maryland at the intersection of U.S. Route 301 and Maryland Route 5. Waldorf Station is planned to include approximately 260,000 square feet of retail and commercial use, 700 apartments and 100 townhomes. Greenberg Gibbons plans to develop the site into an open-air mixed-use development and will lease and manage the property bringing quality shops and restaurants to the region. This transformational project will serve as an attractive gateway to Waldorf and Charles County. It will enhance a sense of place and "downtown". Several blighted and underutilized buildings have already been demolished. The developer is staged to begin the first phase of construction.

Charles County's cost of living is low relative to the Washington, D.C. metro area. Based on a national overall cost of living index of 100, Charles County's index is 118 compared to 135 for the D.C. metro. This relatively low cost of living index affords many County residents to maintain an overall high quality of life and meet the needs of their daily living.

The quality of life in Charles County starts with it low crime rate. In the past five years, the County has experienced a reduction in the crime rate from 30.1 crimes per 1,000 residents in 2011 to 26.7 crimes per 1,000 residents in 2016. The Charles County Sheriff's Office is a nationally accredited, full-service law enforcement agency responsible for preventing and investigating crimes in Charles County. The Sheriff's Office is committed to keeping County residents safe and its crime rate low by ensuring they continue to have the resources necessary to perform their job.

VII. ADDITIONAL CONSIDERATIONS

Charles County Facts

From 2011 to 2016, the number of businesses in Charles County, increased by 1,136, rising from 4,084 to 5,220, and annual growth rate of 5.6%. Correspondingly employment increased by 5,310 from 48,404 in 2011 to 53,714 in 2016, and annual growth rate of 2.2%. The top occupation groups for County residents (civilian employed population 16 years and over by number employed) are as follows: management, business, science, and arts occupations (41%); sales and office occupations (25%); service occupations (17%); natural resources, construction, and maintenance occupations (8.5%); production, transportation, and material moving occupations (7.6%).

Existing Maryland Energy Policies

Maryland has several existing energy policies that could be of interest to companies considering the State for expansion. Maryland's policies have put the State in a leadership position among its sister states when it comes to creating a clean energy future.

Maryland is a leader when it comes to greenhouse gas emissions, Renewable energy technologies, and energy efficiency. In 2008, the General Assembly passed legislation that would require a 25% reduction in carbon emission by 2025. Since then, in 2016, the State increased and extended the goal to seek a 40% reduction by 2030. Currently the State is developing plans to meet its goals.

In 2006 Maryland joined the Regional Greenhouse Gas Initiative (RGGI). RGGI is the nation's first greenhouse gas cap-and trade system. The initiative establishes a "cap" on carbon emissions from electrical power plants and allows "trading" to encourage the most cost effective emission reductions.

In its current form, Maryland Renewable Energy Portfolio Standard has a goal of 25% by 2020 with a 2.5% carve-out for solar, and as much as 2.5% for Offshore Wind. Like the nation's other RPS programs, Maryland's State's electricity suppliers are required to purchase Renewable Energy Credits (REC) in an amount proportionate to their share of the State's electrical supply. A REC represents the renewable attributes associated with the production of one megawatt-hour of electricity generated using renewable energy resources.

Maryland now boasts close to 800 MW of deployed solar generation sources. This triples the amount deployed at the time of Governor Hogan's inauguration in January 2015.

The Maryland Public Service Commission approved two offshore wind projects in May 2017. Two separate developers are aiming for deployment of a total of 368 MW of offshore wind generation in the next several years. The deployment will represent the largest deployment of offshore wind in the Americas. Further, Maryland hopes by approving these projects that it will secure a first mover advantage and become the destination for all manufacturing and servicing relating to a U.S. based offshore wind industry.

Maryland's EmPOWER Program has achieved significant energy savings since the Program's inception in 2008. EmPOWER is a utility managed energy efficiency program. The program goal is set at 2% reduction in weather normalized gross retail sales against a 2016 baseline. The program is financed through a surcharge on customer's electric bills. According to the Maryland Public Service Commission, during the period between 2008 to 2015, the program saved $4.39 billion over the lifetime of the saving measures, with costs amounting to $1.906 billion, including demand response and limited income measures.

According to EPA's greenhouse gas calculator, [3] the electricity savings from 2008 to 2015 are enough to power 427,273 homes, roughly a quarter of Maryland's residences, for one year. These savings helped avoid the use of 21,548 railcars worth of coal, enough to stretch from Baltimore to New York City.

[3] https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

VIII. ATTACHMENTS

Map of Site Location

Letter of support from the State of Maryland Office of the Governor

Letter of support from the Chancellor – University System of Maryland

Letter of support from University System of Maryland Board of Regents

Letter of support from Charles County Administrator

Letter of support from Congressional Delegation